



Rolling Mid-Term Management Plan T-2022

February 17, 2020



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Progress Report on Implementing
the T-2021 Measures Announced Last Year

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T-2022 Rolling Mid-Term Management Plan

Three-Year Plan for Responding to Changes
in the Business Environment

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Position of the T-2022 Rolling Plan

We have adopted a rolling format to respond flexibly to changes in the management environment and will update the Mid-Term Management Plan annually.

	2019	2020	2021	2022	2023	2024
T-2021 Previous plan announcement →	Mid-Term Management Plan 2019-2021					
T-2022 Current plan announcement →		Mid-Term Management Plan 2020-2022				
Future plan announcement →			Mid-Term Management Plan 2021-2023			
. . .				Mid-Term Management Plan 2022-2024		



01

Looking Back

Progress Report on Implementing Measures (FY2019)

While some investment projects were delayed due to the prolonged trade friction between the U.S. and China, most of the key measures will be implemented in FY2019.

■ Progress Report on Implementation of Key Measures in the Previous Plan (T-2021)

	T-2021 Key Measures	Progress on Implementation in FY2019	Notes
1	Generate stable cash flow in the graphite electrode business	<ul style="list-style-type: none"> ○ Maintained high margins by prioritizing pricing ○ CAPEX on renewal and maintenance of production facility ··· Suspended negotiations on the formula-based system 	<ul style="list-style-type: none"> ● The sense of a surplus in electrodes from deceleration of the European economy and the impact from U.S.-China trade friction became clear in the latter half of 2019
2	Integrate management of global carbon black plants	<ul style="list-style-type: none"> ○ Began technology exchanges in three locations ○ Capable skill of North American plant utilizing the feedstock oil has shared among the group companies 	<ul style="list-style-type: none"> ● On track
3	Rebuild the revenue model for the fine carbon business	<ul style="list-style-type: none"> ○ Invested in CVD-SiC production equipment (increase of roughly 20% up to 2020) 	<ul style="list-style-type: none"> ● On track
4	Invest ¥50 billion in growth areas	<ul style="list-style-type: none"> ○ Increased capacity for Cancarb Limited in Canada by 20% (+ 9,000 tons/year by 2020) ○ Invested in increasing industrial furnace production capacity (by about 30%) ··· Suspended capacity increase investment in carbon black (Thailand) ··· Investment in increasing capacity for anode materials temporarily shelved in light of the overall trend in demand 	<ul style="list-style-type: none"> ● Tokai Carbon acquired COBEX (now Tokai COBEX). Expanded laterally to areas peripheral to carbon and graphite, and diversified target industries (aluminum industry, silicon metals, etc.)
5	Build and strengthen consolidated governance	<ul style="list-style-type: none"> ○ Strengthened the global human resource management structure ○ Strengthened management structure for domestic and overseas subsidiaries (Launched North American regional headquarters, etc.) ○ Pursued global financial and tax management ○ Clarified ESG issues and began expanding disclosure (from November onward) 	<ul style="list-style-type: none"> ● On track

Change in Assumptions from the Previous Plan (T-2021)

Assumptions were changed to incorporate the impact of prolonged U.S.-China trade friction and the acquisition of Tokai COBEX of Germany

■ Changes in Tokai Carbon's Assumptions

Area	Previous Plan Assumptions (T-2021)	New Assumptions	Issues Involved
Macro Economy	<ul style="list-style-type: none"> ● Strong U.S. economy ● Tighter market due to environmental regulations in China 	<ul style="list-style-type: none"> ● Deceleration in global economic growth due to prolonged U.S.-China trade friction ● Deceleration of European economy 	<ul style="list-style-type: none"> ● Production and sales in line with demand ● Inventory reduction
Business Domains	<ul style="list-style-type: none"> ● Mainly existing business domains 	<ul style="list-style-type: none"> ● Maintenance of existing business domains ● Entrance into aluminum-related areas with the inclusion of Tokai COBEX as a group company 	<ul style="list-style-type: none"> ● Integration of the new business into the group
Financial Base	<ul style="list-style-type: none"> ● Net debt/equity ratio of 0.0 times 	<ul style="list-style-type: none"> ● Diversification of financing methods (initial bond offering, hybrid bond offering) ● Net debt/equity ratio of 0.3 times 	<ul style="list-style-type: none"> ● Strengthening the financial base and maintaining/improving rating ● Maintaining access to financial capital markets
Other	<ul style="list-style-type: none"> ● Disclosure majorly on financial information 	<ul style="list-style-type: none"> ● Clarification of ESG and SDGs as part of the corporate agenda ● Expansion in disclosure of non-financial information 	<ul style="list-style-type: none"> ● Setting non-financial goals for the future ● Maximizing contribution to achievement of SDGs in existing businesses



02

Rolling
Mid-Term Management Plan

T-2022 Basic Policies

The basic policies have not changed from the previous plan (T-2021)

Strengthen the revenue base

- Generation of stable cash flow in core businesses
- Post-merger integration (PMI) for four acquisition projects (management integration)
- Major renovation of facilities and environmental investment



Expand opportunities for growth

- Expansion of capacity in growth areas
- Optimization of business and product portfolios
- Ongoing M&A and investment in strategic areas
- Ongoing initiatives in strengthening technology development

Build a consolidated governance structure

- Head office re-organization and review of systems
- Expansion of functions of regional headquarters in North America
- Securing and developing human resources

T-2022 Quantitative Targets

Aim for greater growth while maintaining high profitability

¥300 billion

Net Sales

(2020 forecast: ¥251.2 billion)

¥54 billion

Operating Income

(2020 forecast: ¥28.2 billion)

18 . . .

ROS

(2020 forecast: 11%)

¥82 billion

EBITDA

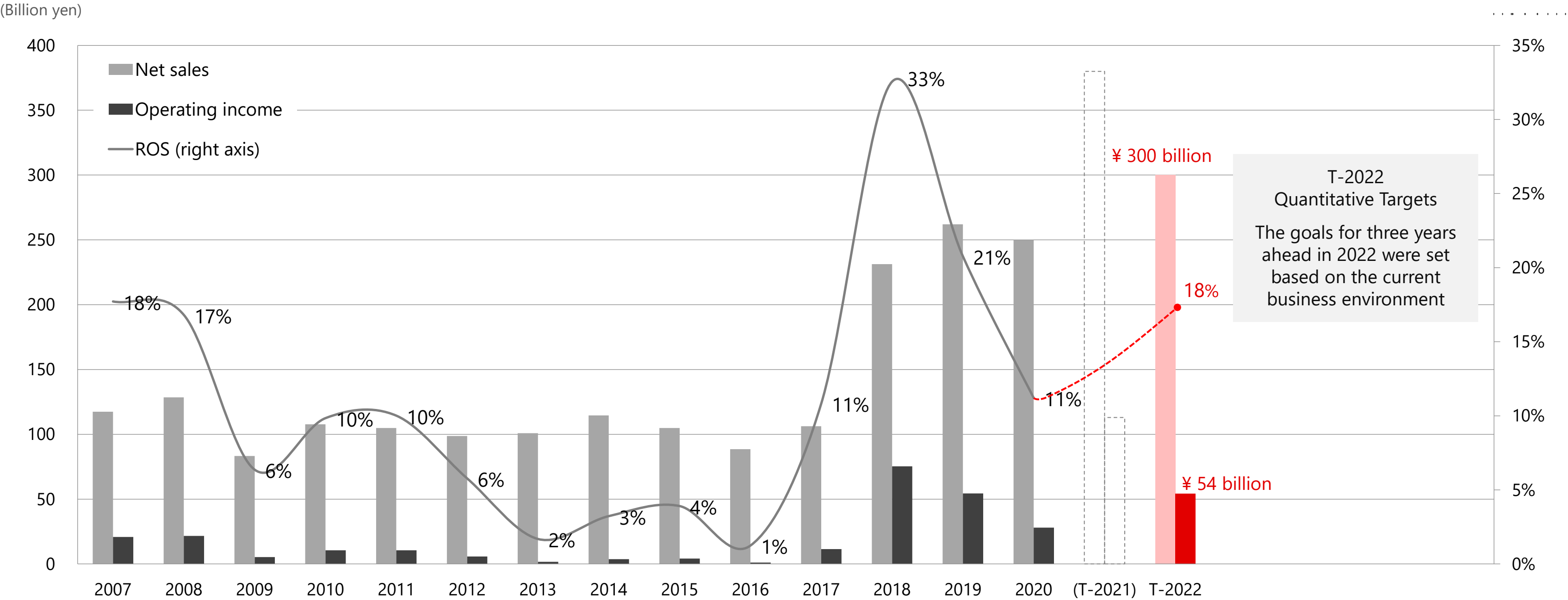
(2020 forecast: ¥55 billion)

Reference:

ROIC: 12%, ROE: 15%

(Reference) Comparison to T-2021, the Previous Plan

The deceleration of growth in the European economy and the prolongation of U.S.-China trade friction has resulted in slower growth in the steel and automotive manufacturing and the semiconductor market, which are target industries for Tokai Carbon. More specifically, the supply of graphite electrodes, which grew tight in 2018, eased from 2019 onward and we have therefore revised our assumptions for sales volume and sales prices in light of current conditions. Global EAF steel production is projected to grow in the future and we therefore anticipate resolution of the surplus electrode inventory and a return to a path of growth from the second half of 2020 onward.



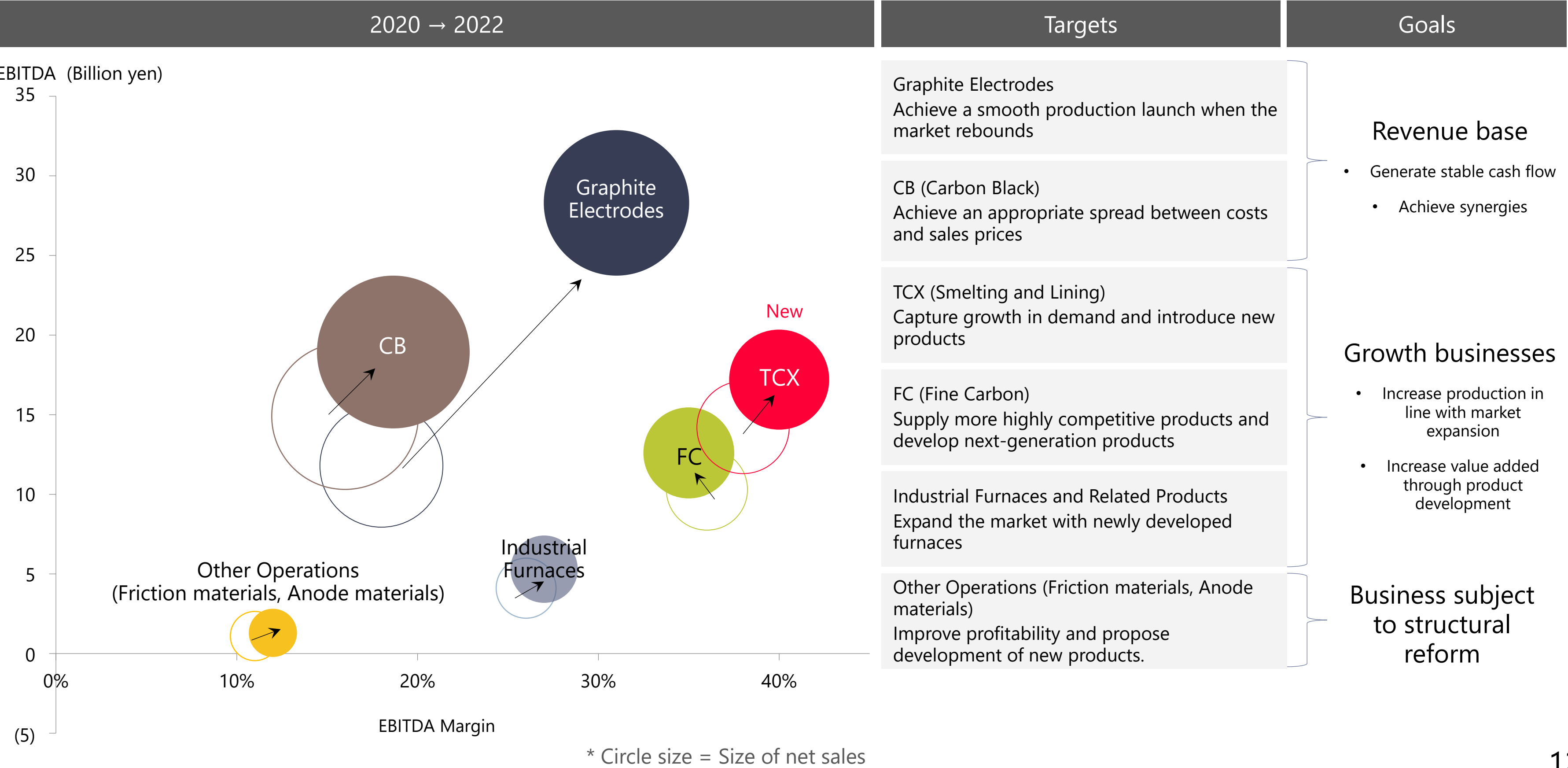
(Reference) Segment Data

(100 million yen)

			Results	T-2022	
			2019	2020 (Forecast)	2022 (Reference)
Net Sales			2,620	2,512	3,000
	Graphite Electrodes		913	659	910
	Carbon Black		1,017	933	1,000
	Fine Carbon		303	287	360
	Smelting and Lining (Tokai COBEX)		146	370	430
	Industrial Furnaces and Related Products		126	156	200
	Other Operations	Friction materials	74	78	80
		Anode materials	36	27	20
		Other	1	2	0
Total other		112	107	100	
Operating Income			543	282	540
Graphite Electrodes		393	80	240	
Carbon Black		85	76	120	
Fine Carbon		61	51	70	
Smelting and Lining (Tokai COBEX)		(16)	48	70	
Industrial Furnaces and Related Products		32	38	50	
Other Operations		(0)	4	4	
Inter-segment eliminations		(12)	(15)	(14)	

* Exchange rate assumptions for T-2022: JPY104/USD, JPY118/EUR

Direction of the Business Portfolio



T-2022 Key Themes

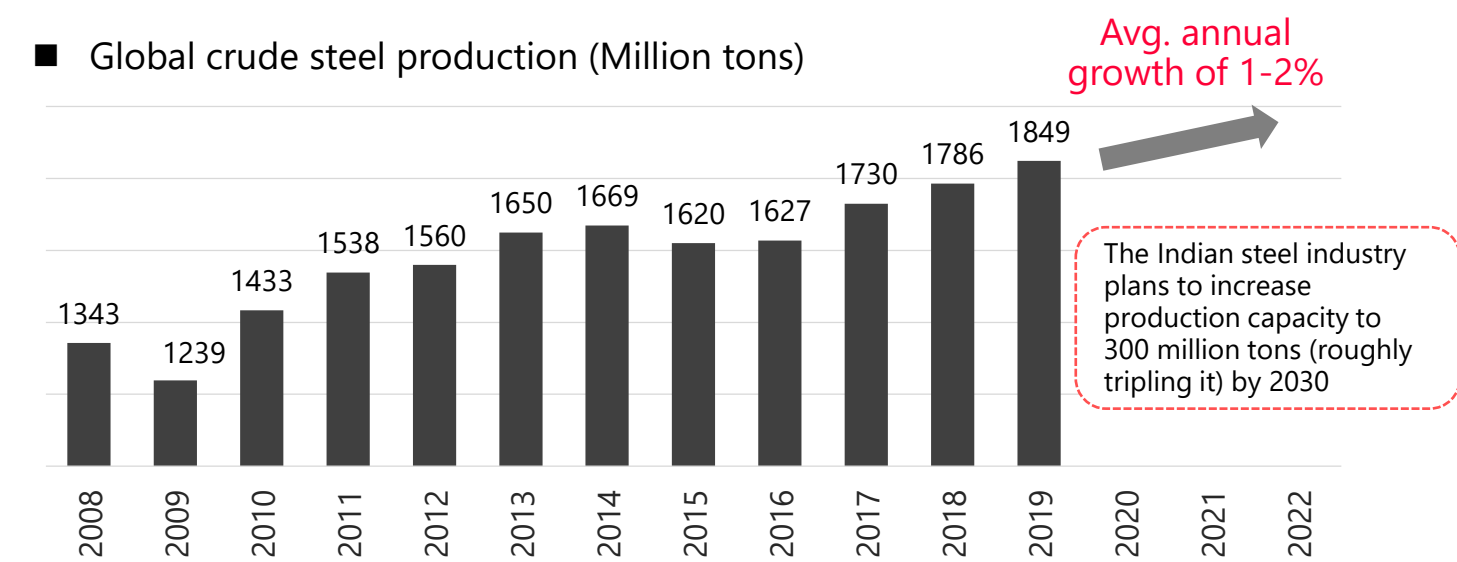
Make the appropriate course corrections to respond the changes in environment of each business, based on the key measures in the previous plan (T-2021).



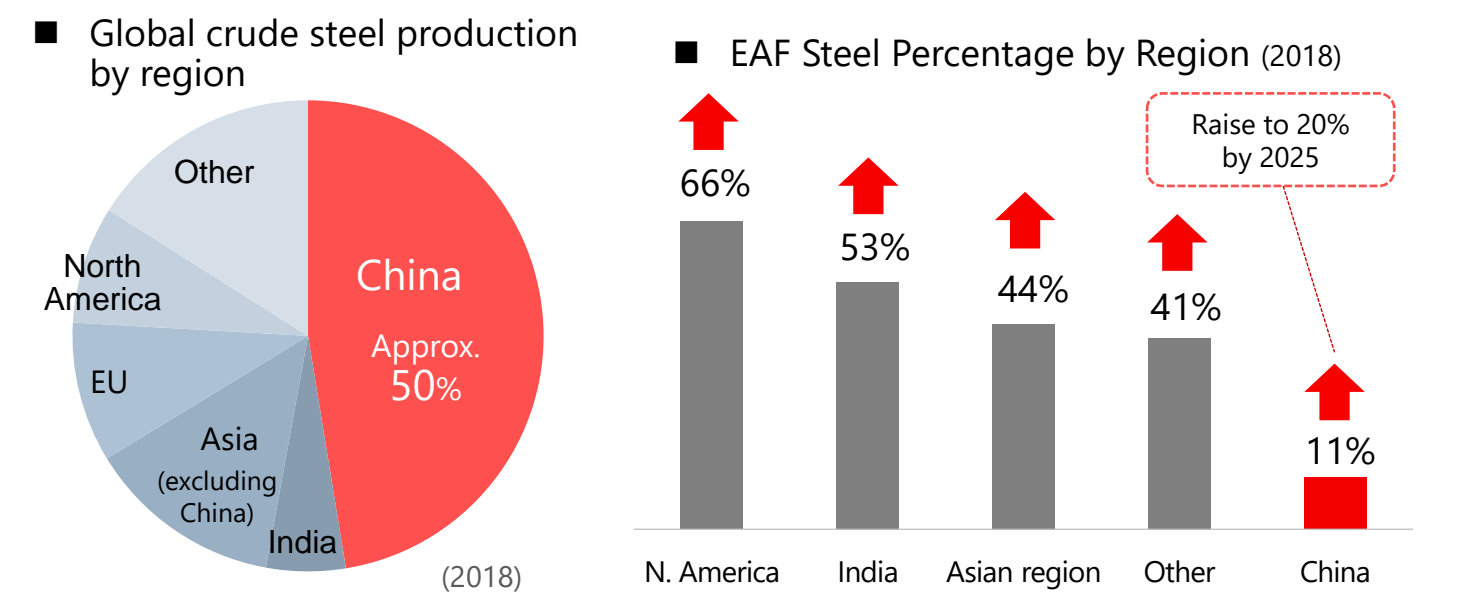
Generate Stable Cash Flow in Graphite Electrode Business

Business Environment

Growth of global crude steel production over the medium term



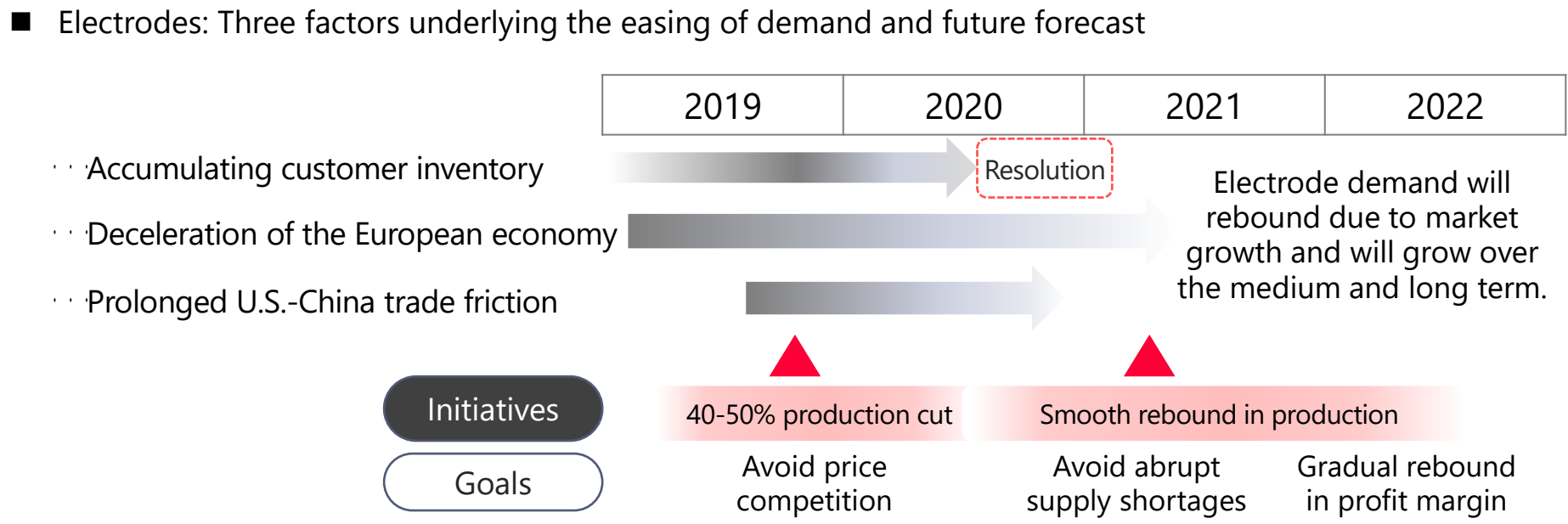
Acceleration of the switch to EAF steel, which imposes less of a burden on the environment



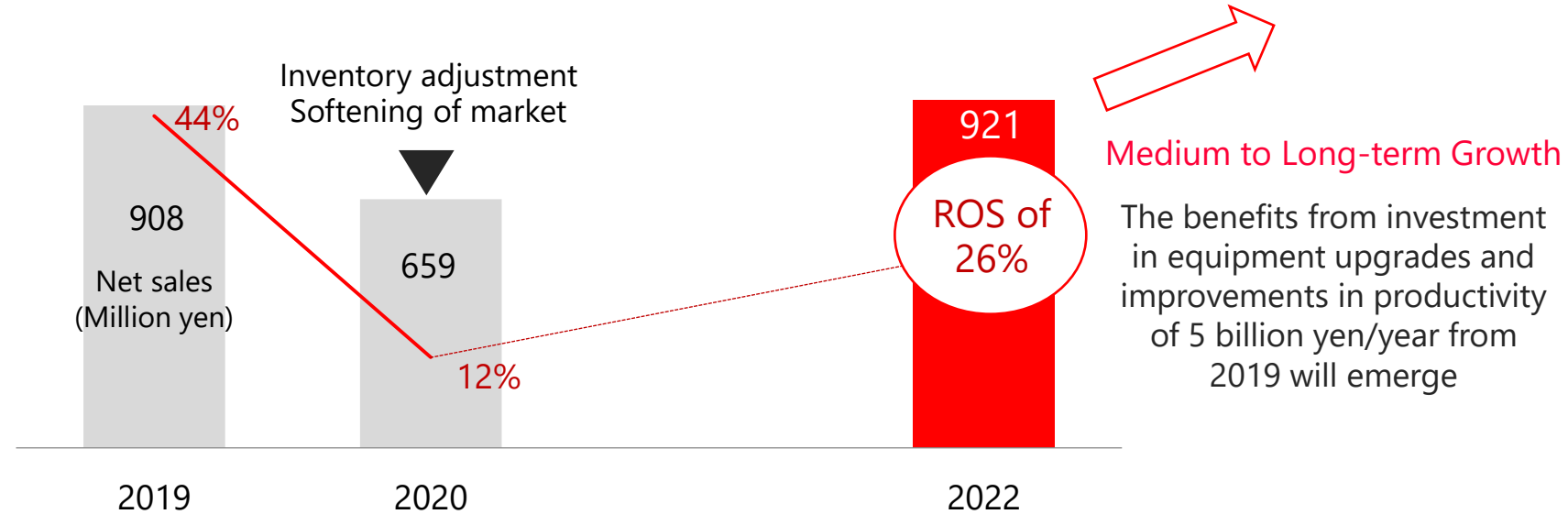
Source: WSA

Future Forecast

Supply eased from 2019 · 2020 will be a period of inventory adjustment



Demand will return to a path of growth from 2021 and beyond, and benefits from improvement in productivity will also emerge



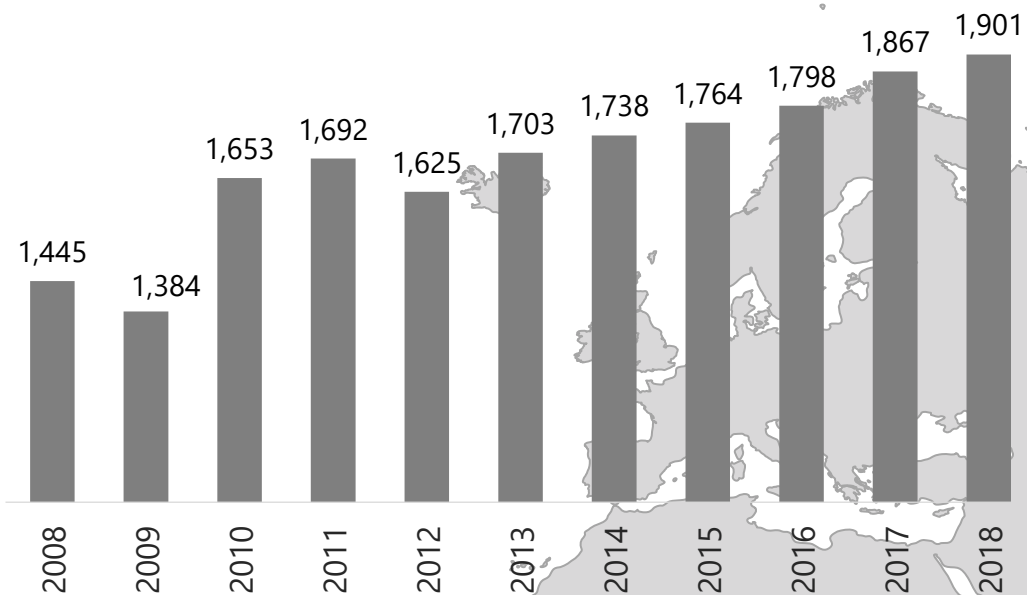
Source: Company estimate and targets

Generate Synergies in the Carbon Black Business

While growth in carbon black demand is projected over the medium and long-term, growth in the Asia region is uncertain at present due to the impact of U.S.-China trade friction. During the term of the T-2022 plan, we will pursue cost reduction and improvements in efficiency by sharing technology within the group, and will achieve stable profits by increasing the percentage of high value-added products.

Global Tire Production Will Grow at an Average Annual Rate of 2-3%

■ Global tire production
(Million tires)



Avg. annual growth of 2-3%



TTC in China
Annual production of 70,000 tons

- Newly developed products
- High value-added products



Cancarb Ltd. in Canada
Annual production of 45,000 tons



TCCB in the U.S.
Annual production of 440,000 tons

3 Plants in Japan
Annual production of 202,000 tons



TCP in Thailand
Annual production of 180,000 tons

- Stronger feedstock oil response capability
- Highly efficient operations

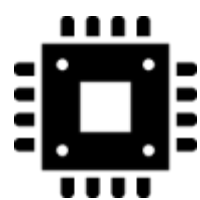
Source: Notch

Actively Invest in Growth Markets

Business Environment

Fine Carbon Business:

A Market Rebound is Forecast from 2020 Onward



Semiconductors

Due to the slump in semiconductors and U.S.-China trade friction, the rebound in manufacturing equipment and Si wafers will occur from the second half of 2020 onward.



Solar power generation

The industry is projected to grow at an average annual rate of 10% from 2020 onward due to the resumption of the subsidy program by the Chinese government and the switch to renewable energy.

Future Forecast

Rebound in Sales Volume from later half 2020 Onward

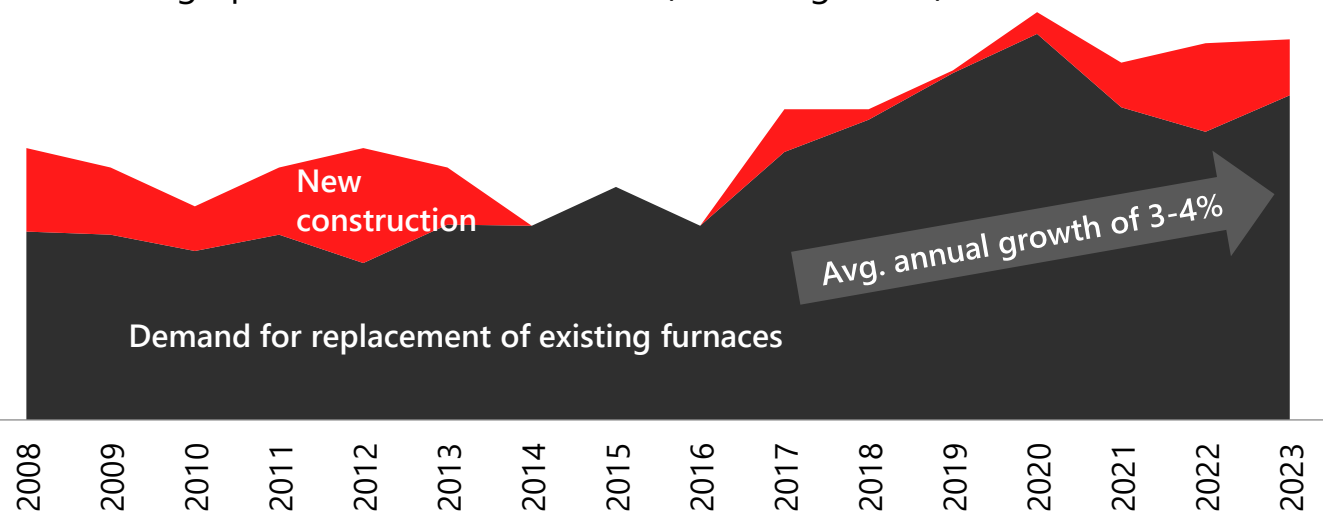
Inventory adjustment is expected to continue through mid-2020 due to the accumulation of customer inventory.

- Promote inventory clearance through production adjustments
- Continue investment in upgrading obsolete equipment and in the environment
- Continue investment in increasing production capacity for CVD-SiC, a growth product

Smelting and Lining Business:

Mid-term Growth from Replacement + New Demand

■ Trend in graphitized cathode demand (excluding China)



Equipment Renovation and Introduction of New Equipment in Line with Market Expansion

- Improve productivity and reduce costs by resolving bottlenecks
- Commercialize new products
 - Increase product value added
 - Break into new markets

Development of Next-generation Products

Development and commercial expansion of products that will provide growth during the mid-term management plan and in the future.



Newly developed furnace for LiB cathode materials

Firing furnace for next-generation LiB and ceramics

High-efficiency & high productivity continuous furnace

Industrial Furnaces & Related Products

Provide innovative solutions

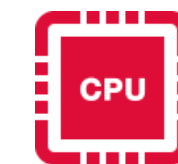
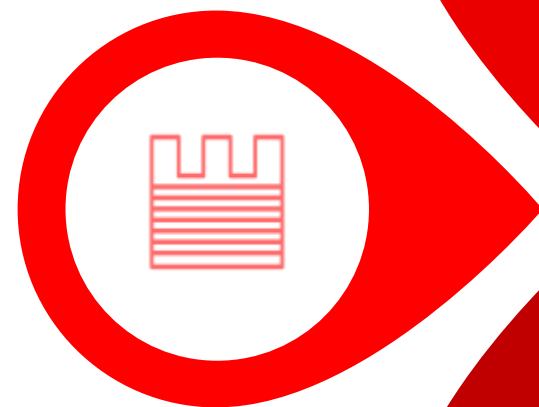
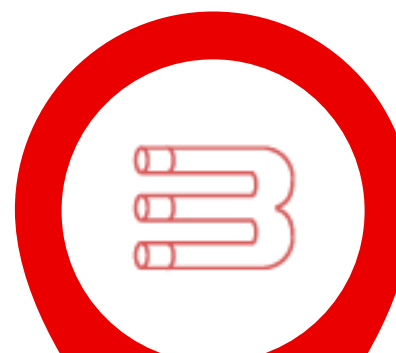
RuC[®] (Ready-to-Use Cathode)

Smelting and Lining



Newly developed cathodes

Currently supplied to users on a trial basis



Research and Development

Development of next-generation anode materials that reduce environmental burden and are commercialized for the electronics fields and other purposes

Graphite, SiC, and beyond

Next-generation CVD-SiC

Fine Carbon

High-performance SiC coating technology developed that increased uniformity compared to conventional products



CVD-SiC coated susceptor



TaC susceptor



TaC component for single crystal SiC lifting device

TaC*

Fine Carbon

Demonstrated stable performance in high-temperature environments of 1500°C, which are difficult for graphitic and SiC-coated products.

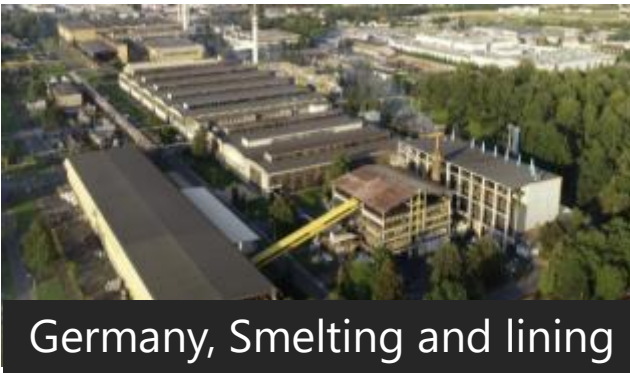
*TaC: Abbreviation of Tantalum Carbide

TaC possesses superior corrosion-resistance and purity, and has a high melting point of around 3,900°C, so this is a next-generation material that can be used under higher temperature conditions than conventional materials.

Build and Strengthen Consolidated Governance Structure

2017 to 2019

Rapid expansion in overseas business domain
(M&A in main business)



	Dec. 31, 2019	Dec. 31, 2016
No. of employees (consolidated)	3,714	1,980
Overseas sales ratio	74%	51%
Overseas employee ratio	65%	39%

T-2022 Initiatives

PMI, the most important theme



- Rapid emergence of business synergies
- Uniform group consciousness
- Establishment of a risk compliance structure
- Global cash management
- Stimulation of human resource exchanges with overseas locations



Training for outstanding employees at Tokai Carbon Korea



N. American regional headquarters and personnel involved in electrodes in the U.S.



General Planning Meeting



Exchange of top onsite management

* PMI: Abbreviation of Post Merger Integration. After a company is acquired, an overall integration process is specified to achieve synergies as consolidated group company and enhance corporate value.

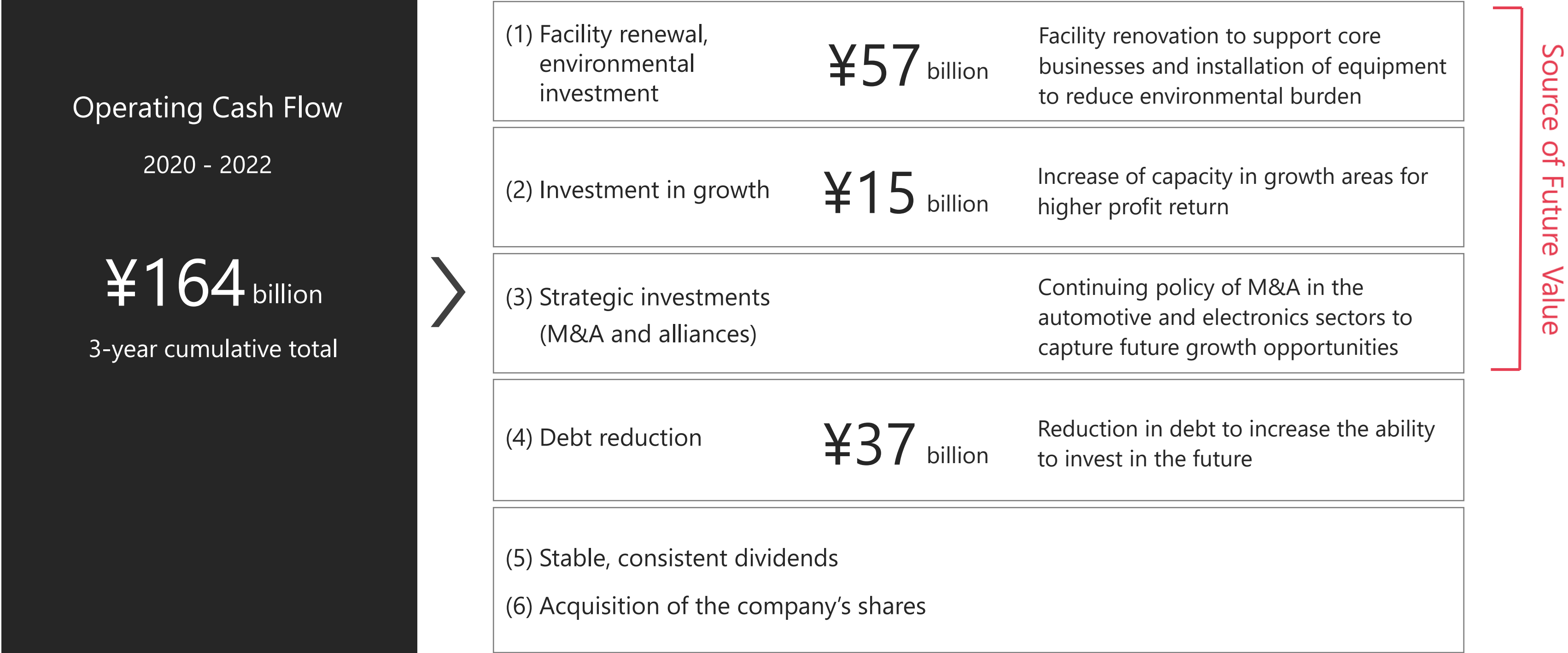


03

Capital Allocation

Allocation of Operating Cash Flow

Our basic policy is to provide the funds needed for investment in growth through operating cash flow generated from our businesses and cash on hand



(1) & (2) Main Types of Facility Investment

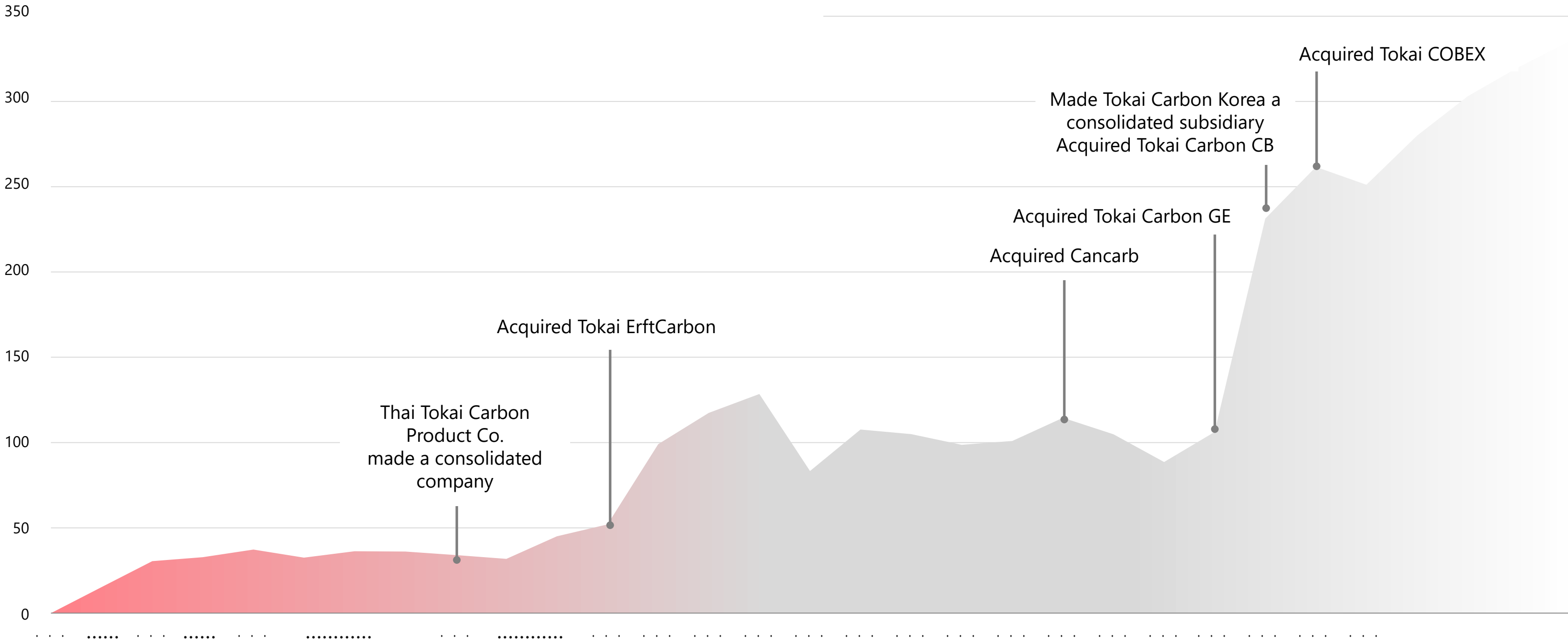
Pursue business sustainability by strengthening existing businesses and through capital investment in environmental safety, and plan for balanced investment in growth to provide a springboard for future growth.

	Type	Investment (Over 3 years)	2020	2021	2022	Value Expected in Future
Graphite Electrodes	Facility renovation	¥19 billion	Building the optimal group production structure			Consistent operation
	Environmental	¥3 billion	Mainly in Japan			Environment & safety
Carbon Black	Facility renovation	¥11 billion	Install state-of-the-art facilities			Consistent operation
	Growth	¥2 billion	Capacity expansion in Canada			Profit growth
	Environmental	¥12 billion	EPA response, etc. of North American locations			Legal compliance
Fine Carbon	Facility renovation	¥3 billion	Tanoura Plant			Consistent operation
	Growth	¥5 billion	Business restructuring & investment in CVD			Profit growth
	Environmental	¥2 billion	Tanoura Plant			Environment & safety
Smelting and Lining	Growth	¥6 billion	Improvement in productivity (resolve bottlenecks)			Higher margins
Industrial Furnaces	Growth	¥2 billion	Capacity expansion			Profit growth
Friction Materials	Growth		Improvement in productivity, electro magnetic brake capacity expansion			Higher margins
Others (General maintenance and R&D related)		¥7 billion				
Total		¥72 billion	¥35 billion	¥20 billion	¥17 billion	

(3) Strategic Investment (M&A and Alliances)

The basic policies have not changed from the previous plan (T-2021).
We will continue to pursue the growth policy through use of strategic investment in existing and peripheral businesses.

■ Trends in Implementation of Strategic M&A and Net Sales (Billion yen)



(4) Debt Reduction

Secure liquidity to support the growth strategy and maintain financial soundness.

2017 - 2019

Executed M&A worth a total of 160 billion yen over three years

(billion yen)

	2016	2017	2018	2019
Operating CF	17.5	10.5	44.1	41.6
Investment CF	(3.6)	(14)	(53.8)	(99.1)
Financial CF	(7.6)	(4.5)	29.6	64.5

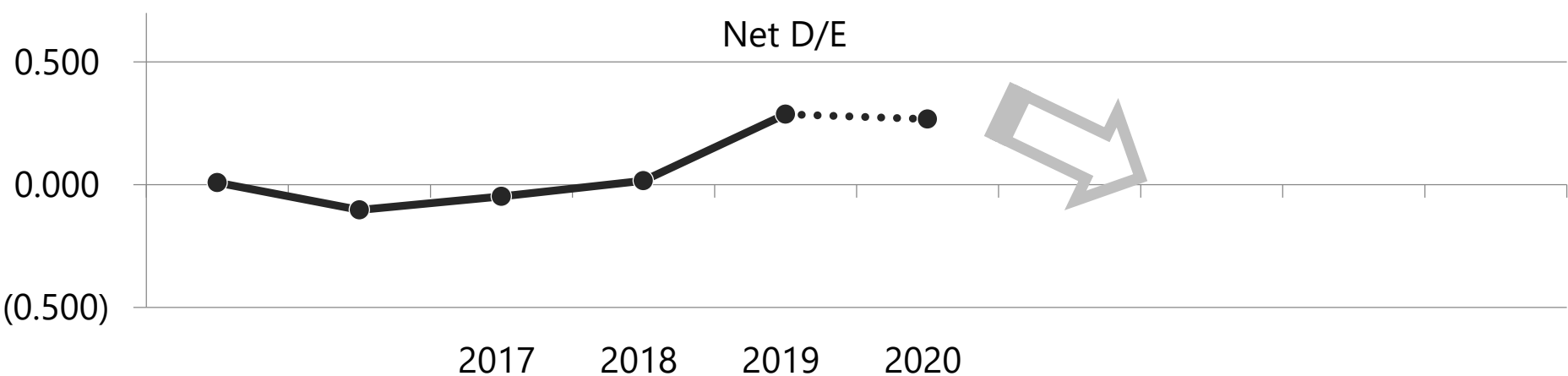
- 2017: U.S. plant for graphite electrodes acquired
- 2018: Tokai Carbon Korea acquired as a consolidated subsidiary
- 2018: U.S. plant for carbon black acquired
- 2019: COBEX of Germany (now Tokai COBEX) acquired

- Funds for acquisition covered by cash on hand, borrowings, and other forms of financing
- Procured roughly 100 billion yen in financing for the acquisition of Tokai COBEX

Future Forecast

Lower adjusted net D/E ratio from 0.3 times to 0.0 times in three to five years

We will work to reduce debt to secure a sound liquidity pursuing net cash basis to increase our ability to invest in the future. Our policy is to use a certain amount of operating cash flow to reduce debt and lower the adjusted net debt/equity ratio from 0.3 times to 0.0 times.



(Reference)

(billion yen)

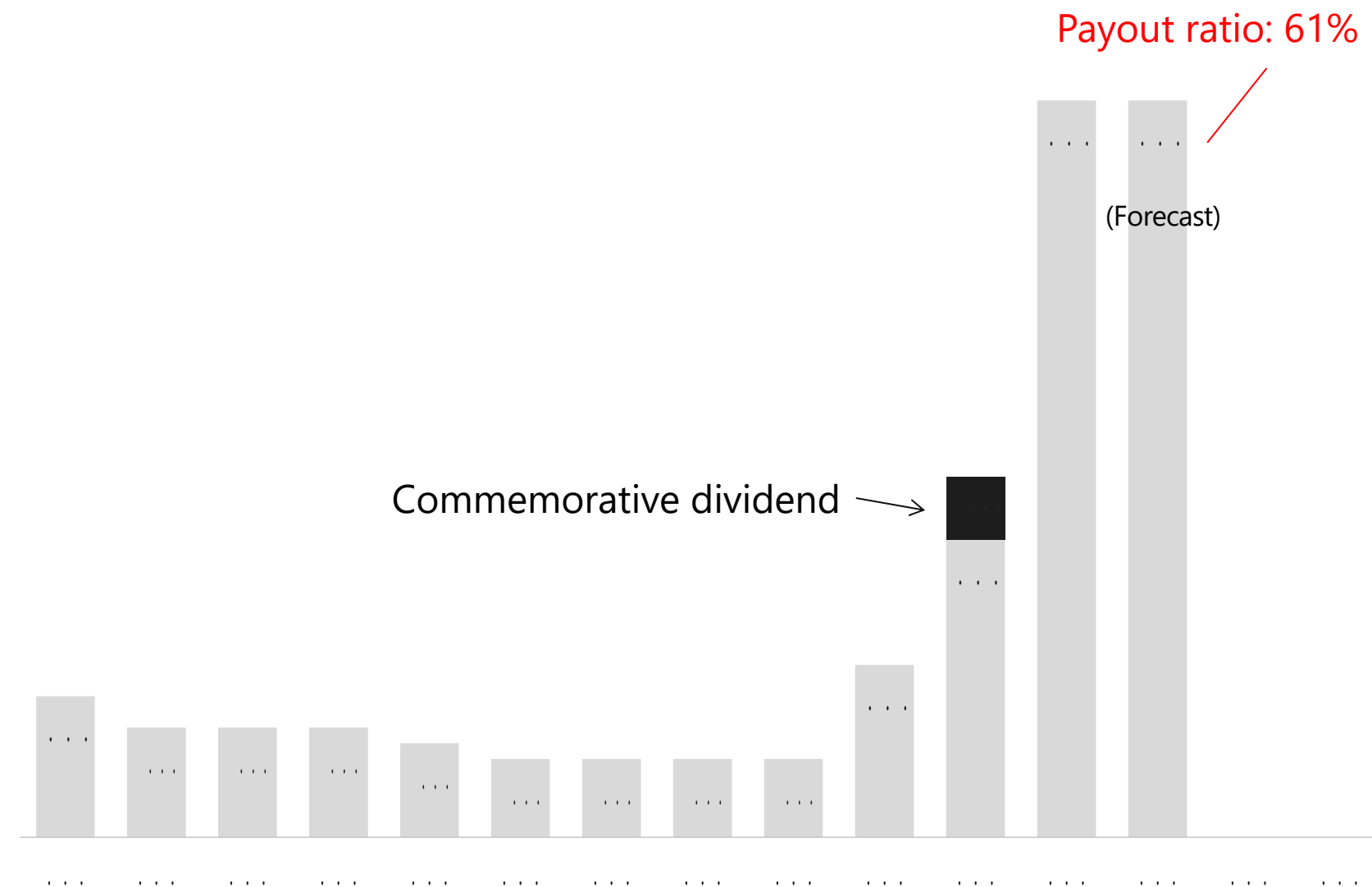
	2017	2018	2019
Adjusted net interest-bearing debt	(6)	2.9	70.3
Adjusted equity	126.4	187.1	236.8
Adjusted net debt/equity (times)	(0.047)	0.016	0.297

*Adjusted net debt/equity is the debt/equity ratio used by the rating agencies that rate hybrid financing to confirm capital

(5) & (6) Shareholder Return

The basic policies have not changed from the previous plan (T-2021).

■ Dividends per share (yen)

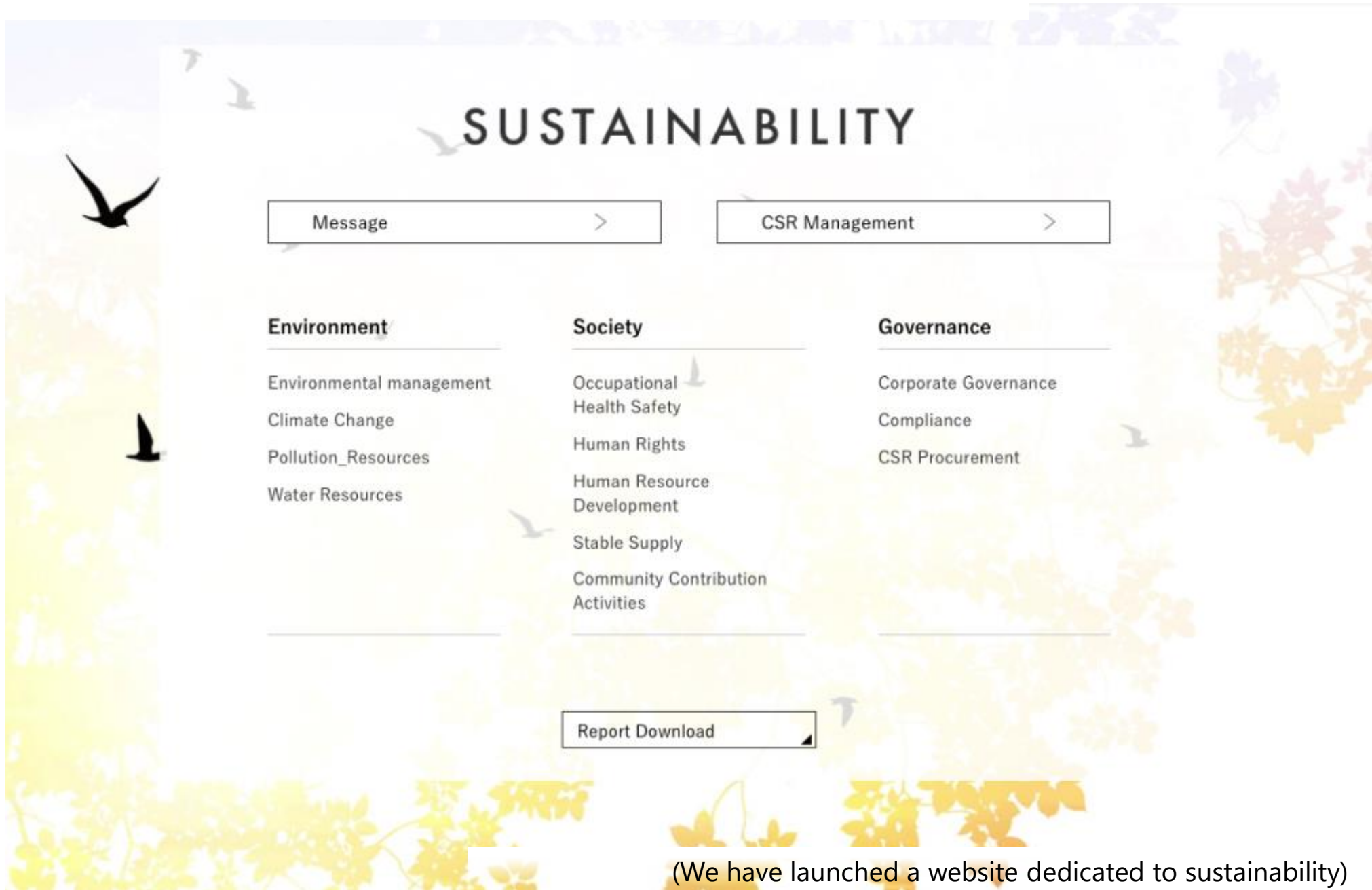


- Focus on declaring stable, consistent dividends while setting the target dividend payout ratio of 30%
- We will also consider using surplus cash flow to buy back the company's shares as dictated by the level of surplus cash flow and collective consideration of the business environment surrounding the company, financial status, investment in growth, the level of the stock price, and other pertinent factors

Clarify that ESG/SDGs as a Part of the Corporate Agenda

The Tokai Carbon Group aims to contribute to the sustainability of society by solving the many problems spreading around the world and synchronizing this with corporate management. We will redouble our efforts on initiatives aimed at solving important problems and actively disclose information.

■ Sustainability of Tokai Carbon (Website)



(We have launched a website dedicated to sustainability)

■ Key issues that we should work on as priorities

Contribution to solving social problems through business

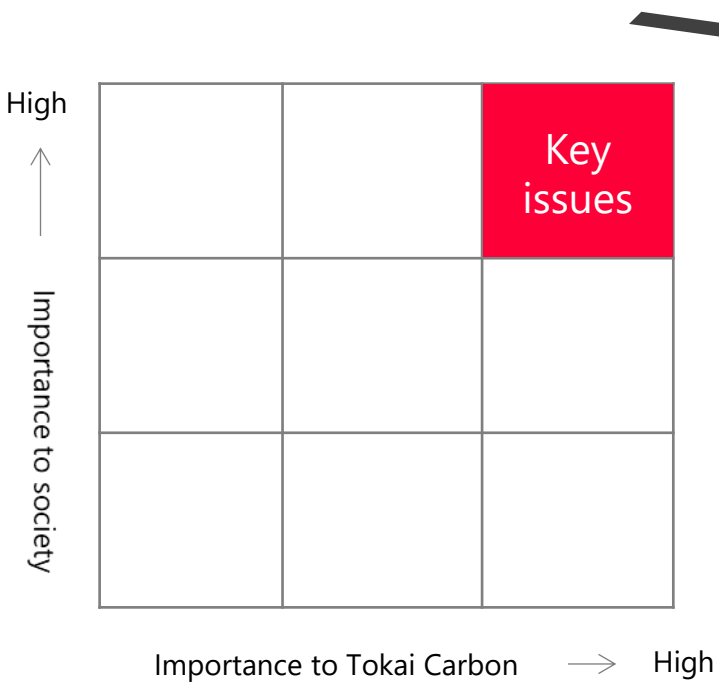
- Taking on the challenge of technological innovation
- Provision of safe, reliable products
- Supply chain management
- Respect for human rights
- Contributions to communities

Harmonization with the global environment

- Reduction of environmental burden
- Realizing a recycling society

Strengthening the management base

- Stronger corporate governance
- Strict compliance
- Human resource development
- Pursuit of occupational health & safety



Disclaimer regarding forward-looking statements

- Forward-looking statements in this document are based on information obtainable at the time this document was published and assumptions as of the date of publication concerning elements of uncertainty that could affect future earnings.
- Actual results may differ substantially, depending on various future factors. Factors that affect business performance include, but are not limited to, economic conditions, trends in product demand and market prices, and fluctuation in exchange rates.
- The quantitative goals, reference values, investment amounts, and other numerical goals in this document only express the medium-term strategy and vision of the company; they are not performance forecasts. The company is not obligated to update such information.
- Please see the disclosures in the Consolidated Financial Results for the official earnings forecast, based on the rules of Tokyo Stock Exchange, Inc.

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Hotter than the Centigrade scale